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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,734

03/05/2007

Fred Kramer

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4952

84362 7590 12/22/2009  
GKN Driveline/TTG  
c/o Kristin L. Murphy  
39533 Woodward Avenue, suite 140  
Bloomfield Hills, MI 48304

EXAMINER

HOLMES, JUSTIN

ART UNIT

PAPER NUMBER

3655

MAIL DATE

DELIVERY MODE

12/22/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,734	<b>Applicant(s)</b> KRAMER ET AL.	
	<b>Examiner</b> JUSTIN HOLMES	<b>Art Unit</b> 3655	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/7/09</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The Examiner acknowledges receipt of the Amendment filed on September 17, 2009. Claims 8-17 have been cancelled. Claims 1-7, 18 and 19 are currently pending.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on July 7, 2009 is being considered by the examiner.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 7 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 7 recites the limitation "the actuator" in line 3. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 19 recites the limitation "the actuator" in line 3. There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,460,677 to Roscoe.

Regarding claims 1-4 and 7, the Roscoe patent teaches a differential drive with a rotatably arranged differential carrier in which a multi-plate coupling is arranged so as to be effective between the differential carrier and a sideshaft gear. The differential carrier having a dish-shaped carrier part 12c in which there are received sideshaft gears 16, 17 and differential gears 29, and a dish-shaped cover 12b which receives the plates 22, 24 of the multi-plate coupling. The dish shaped carrier part 12c and the dish shaped cover 12b extend away from each other. The parts extend away from each other from the clutch plate labeled 26 in Fig. 2. The outer plates 22 of the multi-plate coupling are held in the cover 12b with a toothed arrangement. The inner plates 24 of the multi-plate coupling are form-fittingly held on a hub connected to one of the sideshaft gears 17. See column 3, lines 40-45. There is a sleeve 12d arranged on an outside of the cover 12b which axially and radially supports an actuator 70 for the multi-plate coupling. See Fig. 2.

Regarding claim 7, the cover 12b has axial bores in which there are positioned axially movable journals 41 for transmitting an axial movement from the actuator 70 to the multi-plate coupling 21. See column 3, lines 46-53 and Figs 2 and 3. It would be obvious to one having ordinary skill in the art at the time the invention was made that there are multiple axial bores for the journals 41 since it is stated in column 3, lines 50

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that the "tappets 41" is in the plural form which states that there is more than one tappet but only one is shown in the drawings.

Accordingly, all the elements of claims 1-4 and 7 are anticipated by the Roscoe patent.

9. Claims 1, 2 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent JP 61062640A to Teraoka et al. A translation of the patent is enclosed.

The Teraoka et al. patent teaches a differential drive with a rotatably arranged differential carrier in which a multi-plate coupling is arranged so as to be effective between the differential carrier and a sideshaft gear, the differential carrier having a dish-shaped carrier part 1 in which there are received sideshaft gears 7 and differential gears 5 and a dish-shaped cover 1a which receives the plates 13 of the multi-plate coupling 11. The inner plates of the multi-plate coupling 11 are held on a hub 9 that is connect one of the sideshaft gears 7a. See Fig. 1. Wherein the carrier part 1 and the cover 1a each comprise a base portion, a casing portion and a connecting portion for inter-connecting the carrier part with the cover, wherein the carrier part and the cover are connected such that the base portions are arranged on opposite sides with regard to said connecting portions. See Figs. 1 and 2. The connecting portions of the carrier part 1 and cover part 1a that are shown to have a screw hole to connect them in Fig. 1.

Accordingly, all the elements of claims 1, 2 and 18 are anticipated by the Teraoka et al. patent.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,460,677 to Roscoe in view of U.S. Patent No. 6,945,898 to Szuba.

The Roscoe patent lacks a teaching that the cover on its circumference has apertures with blades.

The Szuba patent teaches a differential housing 12 having differential gears 40, 42 contained therein. It is also shown that a clutch assembly can be contained within the housing 12. See Figs. 4 and 7A and column 6, lines 47-61. It is also shown that a plurality of apertures 102 are formed in the housing 12 that are associated with blades 100 which have a centripetal effect on the surrounding medium for cooling the mechanism. See column 6, lines 62-7 and column 7, lines 1-18 and Figs. 8A, 8B and 9.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Roscoe patent to include the lubrication scoops and apertures as taught by the Szuba patent in order to lubricate the differential to facilitate operation of the gears. See column 6, lines 62-65 of the Szuba patent.

12. Claims 3, 4, 7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent JP 61062640A to Teraoka et al. in view of U.S. Patent No. 6,460,677 to Roscoe.

Regarding claims 3 and 4, the Teraoka et al. patent lacks a teaching of an actuator supported by a sleeve for the multi plate coupling.

The Roscoe patent teaches a differential drive with a rotatably arranged differential carrier in which a multi-plate coupling is arranged so as to be effective between the differential carrier and a sideshaft gear. The differential carrier having a dish-shaped carrier part 12c in which there are received sideshaft gears 16, 17 and differential gears 29, and a dish-shaped cover 12b which receives the plates 22, 24 of the multi-plate coupling. The dish shaped carrier part 12c and the dish shaped cover 12b extend away from each other. The parts extend away from each other from the clutch plate labeled 26 in Fig. 2. The outer plates 22 of the multi-plate coupling are held in the cover 12b with a toothed arrangement. The inner plates 24 of the multi-plate coupling are form-fittingly held on a hub connected to one of the sideshaft gears 17. See column 3, lines 40-45. There is a sleeve 12d arranged on an outside of the cover 12b which axially and radially supports an actuator 70 for the multi-plate coupling. See Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Teraoka et al. patent to include the actuator arrangement as taught by the Roscoe patent in order to provide a more sensitive clutch actuation system. See column 2, lines 17-20 of the Roscoe patent.

Regarding claims 7 and 19, the cover 12b has axial bores in which there are positioned axially movable journals 41 for transmitting an axial movement from the actuator 70 to the multi-plate coupling 21. See column 3, lines 46-53 and Figs 2 and 3

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of the Roscoe patent. It would be obvious to one having ordinary skill in the art at the time the invention was made that there are multiple axial bores for the journals 41 since it is stated in column 3, lines 50 that the "tappets 41" is in the plural form which states that there is more than one tappet but only one is shown in the drawings.

13. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent JP 61062640A to Teraoka et al. in view of U.S. Patent No. 6,945,898 to Szuba.

The Teraoka et al. patent lacks a teaching that the cover on its circumference has apertures with blades.

The Szuba patent teaches a differential housing 12 having differential gears 40, 42 contained therein. It is also shown that a clutch assembly can be contained within the housing 12. See Figs. 4 and 7A and column 6, lines 47-61. It is also shown that a plurality of apertures 102 are formed in the housing 12 that are associated with blades 100 which have a centripetal effect on the surrounding medium for cooling the mechanism. See column 6, lines 62-7 and column 7, lines 1-18 and Figs. 8A, 8B and 9.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Teraoka et al. patent to include the lubrication scoops and apertures as taught by the Szuba patent in order to lubricate the differential to facilitate operation of the gears. See column 6, lines 62-65 of the Szuba patent.

### ***Response to Arguments***

14. Applicant's arguments filed September 17, 2009 have been fully considered but they are not persuasive. Specifically, Applicant has argued on pages 4-8 of the



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Amendment that the Roscoe patent does not teach a differential carrier having an oppositely extending dish shaped carrier and dish shaped cover.

To the contrary the Roscoe patent has a cover portion 12b that forms a dish shape with a "bottom" that extends to the right of Fig. 2. The carrier part 12c forms a dish shaped portion that has a "bottom" that is to the left of Fig. 2. The dish shaped carrier part 12c and dish shaped cover part 12b, meaning the "bottoms" of both parts "extend away from each other" from the reference point of the first clutch plate labeled 26.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the dish shaped portions extend away from each other from where they are bolted together on page 6 of the Amendment) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Accordingly, the rejection of claims 1-7 is maintained.

### **Conclusion**

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 4,757,727 to Teraoka et al. teaches a differential device

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN HOLMES whose telephone number is (571)272-3448. The examiner can normally be reached on 8:00am to 4:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David D. Le can be reached on 571-272-7092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUSTIN HOLMES/  
Examiner, Art Unit 3655

/David D. Le/  
Primary Examiner, Art Unit 3655  
12/18/2009